

PATENT SPECIFICATION



Application Date: Oct. 25, 1923. No. 26,714/23

221,107

Complete Left: July 24, 1924.

Complete Accepted: Sept. 4, 1924.

PROVISIONAL SPECIFICATION.

Improved Means for Closing, or Sealing, Glass, or Like Containers, More Especially Adapted for Use in the Transport of Chemicals.

We, JEFF HENRY SHORES, Chemist, of Cunard Building, Liverpool, a British subject, JOHN WILLIAM TOWERS, Laboratory Furnisher, of Victoria House, 5 Widnes, a British subject, and THE UNITED ALKALI COMPANY, LIMITED, a British company, of Cunard Building, Liverpool, all in the County of Lancaster, do hereby declare the nature of this invention to be as follows:—

It has been found that certain chemicals to be carried, or stored, in sealed glass containers, known as ampoules, become more or less decomposed by heat during the operation of sealing off, or closing, the said containers after the said chemicals have been placed therein; this objection has been noticed, for example, in connection with chloroform.

The object of this invention is to provide an improved closing, or sealing, device for such containers whereby decomposition by heat of the chemical therein is prevented.

According to this invention the neck of the container is elongated and in the said neck is inserted a glass tube closed

at its lower end or a glass rod constituting a stopper the said glass tube, or rod, being preferably of narrow diameter relatively to its length and adapted to slidably fit into the said neck of the container whereby any appreciable amount of vapour is prevented from coming into contact with the heated glass during the sealing operation. The said stopper is of sufficient length to prevent the lower end of the same becoming heated by conduction or convection.

In order to effect the sealing off, or closing, of the container, heat is suitably applied to the outer ends of the two concentric tubes or the tube and rod, that is, the elongated neck of the container and the stopper within it, to effect a hermetically sealed closure. Containers constructed according to this invention can obviously be used for holding materials other than chemicals.

Dated this 25th day of October, 1923.

JOHNSONS & WILLCOX,
47, Lincoln's Inn Fields, London,
W.C. 2,
Agents.

COMPLETE SPECIFICATION.

Improved Means for Closing, or Sealing, Glass, or Like Containers, More Especially Adapted for Use in the Transport of Chemicals.

We, JEFF HENRY SHORES, Chemist, of Cunard Building, Liverpool, a British subject, JOHN WILLIAM TOWERS, Laboratory Furnisher, of Victoria House, 60 Widnes, a British subject, and THE

UNITED ALKALI COMPANY, LIMITED, a British company, of Cunard Building, Liverpool, all in the County of Lancaster, do hereby declare the nature of this invention and in what manner the same

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is to be performed, to be particularly described and ascertained in and by the following statement:—

It has been found that certain chemicals to be carried, or stored, in sealed glass containers, known as ampoules, become more or less decomposed by heat during the operation of sealing off, or closing by fusion, the said containers after the said chemicals have been placed therein, this objection having been noticeable, for example, in connection with chloroform, in such containers.

The object of this invention is to provide means for enabling such sealing off, or closing, to be effected in such manner that decomposition by heat of the matter in the container is prevented, it being, of course, understood that this invention is not limited, in its application, to containers holding chemicals.

According to this invention the neck of the container is made long and of small diameter, and in the said neck is inserted a glass stopper, such as a glass tube closed at its lower end, or a glass rod, the said glass tube, or rod, being of small diameter so as to fit the said neck of the container whereby any appreciable amount of vapour is prevented from coming into contact with the heated glass during the sealing-off, or closing operation. The said stopper is of sufficient length to prevent the lower end thereof becoming heated by conduction or convection, whilst sealing-off, or closing.

In order to effect the sealing-off, or closing, of the container, heat is suitably applied to the outer ends of the two concentric tubes or the tube and rod, that is, the elongated neck of the container and the stopper within it are fused together so that a hermetically sealed closure is effected.

The accompanying drawing illustrates ways in which this invention may be performed, the figures shewing sufficient of a glass container in section to illustrate the application of the invention thereto. In the several figures the glass container is marked A and the rod, or tube, used as the stopper, is marked B. As seen in Figure 1 the container is provided

with a long neck *a* of small diameter and into this neck, (when the contents have been placed in the container), is placed the glass tube B, closed at its lower end *b*. Then the upper ends of the said neck *a* and tube B are fused together as shewn in Figure 2.

Figure 3 and 4 are sections respectively corresponding to Figures 1 and 2 shewing a solid glass rod B, used as a stopper in place of a tube, the upper ends of the long and narrow glass neck of the container being fused together with the upper end of the said rod B as in the case of using a tube.

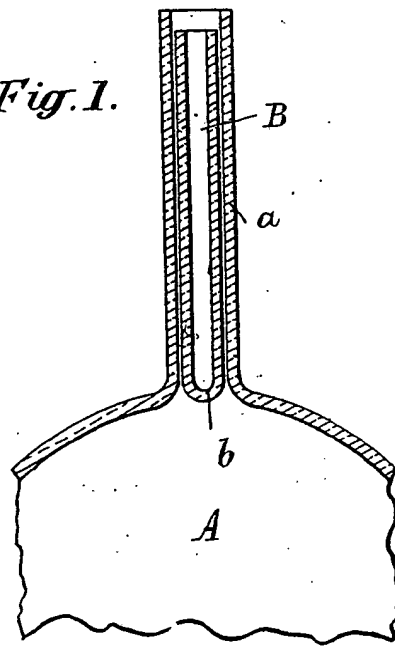
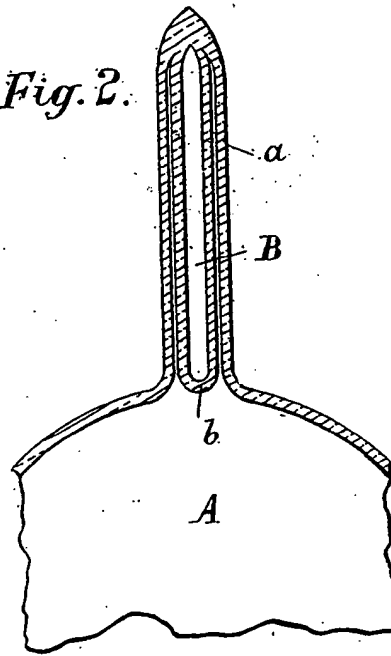
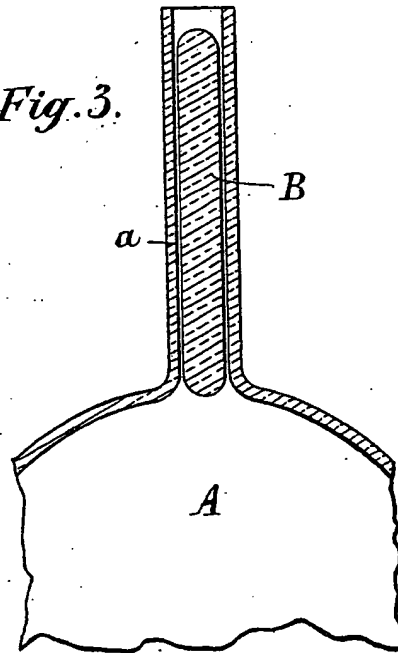
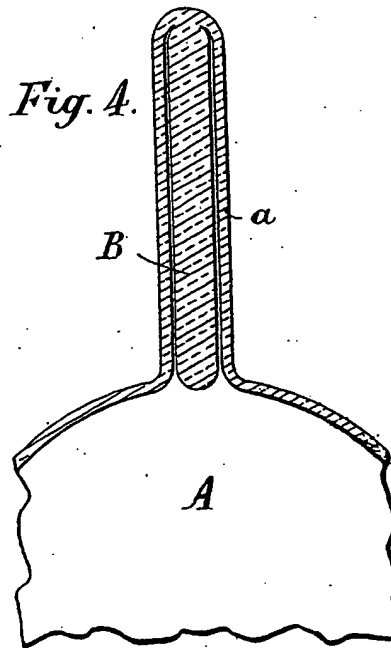
Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. For the purpose of enabling the closing, or sealing, of glass containers to be effected without injury to the contents by the heat employed in fusing the glass for effecting the closing, or sealing; providing the glass container with a neck, in which, when the contents are introduced into the container, is inserted a glass stopper such as a glass rod, or a glass tube, and then fusing the glass of the said neck and of the said stopper together as hereinbefore explained.

2. For the purpose of enabling the closing, or sealing, of glass containers to be effected without injury to the contents by the heat employed in fusing the glass in effecting the closing, or sealing; providing the glass container with a long neck of small diameter and, after the contents have been introduced into the container, inserting into the said neck a long glass rod, or closed glass tube, of a diameter corresponding to that of the said neck and then fusing together the upper end-ports of the said neck and the said rod, or tube, as hereinbefore explained.

Dated this 24th day of July, 1924.

JOHNSONS & WILLCOX,
47, Lincoln's Inn Fields, London.
W.C. 2,
Agents.

Fig. 1.*Fig. 2.**Fig. 3.**Fig. 4.*

[This Drawing is a reproduction of the Original on a reduced scale.]